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Muskmelon Cultivar Trial

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Muskmelon Cultivar Trial

Abstract

The 2010 melon trial evaluated 13 muskmelon and specialty melon cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown in southeast Iowa.

Keywords

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Disciplines

Agricultural Science | Agriculture

Muskmelon Cultivar Trial

RFR-A1002

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Introduction

The 2010 melon trial evaluated 13 muskmelon and specialty melon cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown in southeast Iowa.

Materials and Methods

Trial seed was planted in the greenhouse on April 14 in 72 cell trays, one seed/cell. Young seedlings were grown in the greenhouse approximately four weeks before field transplanting on May 18. Trial design was a randomized complete block with three replications. A plot consisted of one row of eight plants spaced 21 in. apart in rows 7 ft apart. Soil type was light-colored coarse sand. Cultural methods included raised beds that were fertigated with drip tubes and covered with black plastic mulch. Fertilizer was applied preplant incorporated in the bed at the rate of 70 lb/acre nitrogen (N), 70 lb/acre P₂O₅, and 220 lb/acre K₂O. An additional 50 lb/acre N was applied through drip lines during the growing season. Weed control was achieved by black plastic mulch-covered beds and applying Strategy and Sandea herbicides between the beds. Insects were controlled with Admire insecticide at planting and foliar applications of insecticides as needed. Humid and wet weather necessitated the use of Bravo, Cabrio, Kocide, Penncozeb and Ranman fungicides to control foliage diseases.

Results and Discussion

Commercial producers wanting a firm, large fruit for marketing should consider Grand Slam, Atlantis, Strike, Aphrodite, Home Run

and Ariel. Grand Slam and Atlantis, in particular, have stood out in both our 2009 and 2010 cultivar trials by producing strong yields of good quality fruit. Of the two, Grand Slam has produced more uniform fruit size. Aphrodite produced the largest fruit in the trial, although it has also produced the lowest number of fruit per plant. Home Run matured slightly earlier than the other entries, and Strike produced exceptionally uniform, firm fruit. The average fruit weight for Ariel was a desirable 6.5 lb; however, individual fruit weights were quite variable with 22 percent weighing less than 5 lb and 35 percent weighing more than 7 lb (Table 2).

Dutchess was the earliest maturing cultivar in the trial and had surprisingly good flavor for its maturity. Unfortunately, fruit were not as attractive as the other entries due to sparse netting and skin browning. It appeared to be a good cultivar for home gardens and possibly early-season local marketing. Sugar Cube was a unique entry due to an average fruit weight of 2.6 lb and high soluble solids of 13.6 percent. It would fit the personal-sized market but soft ground spots on several fruit, probably due to wet weather, prevent a wholehearted recommendation.

The specialty cultivars all showed merit and flaws. Lambkin is a Piel de Sapo type that won the AAS Award in 2009. Vine growth was vigorous and the 4- to 5-lb fruit were exceptionally sweet. However, slow maturity and susceptibility to rind cracking and sunburn limit commercial potential. Sensation and Courier performed well this season but have had problems with rind cracking due to moisture fluctuations in the past. HSR 4402 is an experimental long shelf-life melon that was slow to mature and soften.

Table 1. Harvest data summary for melon cultivar trial at the Muscatine Island Research and Demonstration Farm, Fruitland, IA 2010.

Cultivar	Seed source ^a	Days to harvest	No. frt/ plant	No. frt/ acre	Yield lb/acre	Avg frt wt (lb)	Soluble solids %
<u>Muskmelon</u>							
Grand Slam	HL	65	2.3	8,064	52,435	6.5	10.4
Atlantis	SK	63	2.2	7,680	48,269	6.3	10.6
Strike	HL	63	2.1	7,296	44,179	6.0	10.1
Aphrodite	RG	65	1.6	5,760	43,258	7.4	11.0
Athena	RG	64	2.2	7,872	42,701	5.3	11.1
Home Run	HL	61	2.2	7,680	41,491	5.3	10.2
Ariel	RG	65	1.7	5,856	38,429	6.5	10.4
Sugar Cube	RU	65	3.7	13,248	34,253	2.6	13.6
Dutchess	RU	59	2.2	7,776	33,072	4.2	12.0
<u>Specialty</u>							
Sensation	HL	67	1.7	6,045	35,666	5.9	11.5
HSR 4402	HL	70	2.2	7,823	32,857	4.2	12.9
Courier	HL	67	1.5	5,334	27,737	5.2	11.1
Lambkin	RU	72	1.3	4,623	20,341	4.4	14.8
Average		65	2.4	8,315	42,964	5.4	11.5

^aSeed sources: HL = Hollar & Co., Inc.; RG = Rogers Brand; Syngenta Seeds, Inc.; RU = Rupp Seeds, Inc.; SK = Sakata Seeds America, Inc.

Table 2. Melon cultivar average fruit weight, percent fruit distribution by weight and fruit description.

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	Avg frt	% fruit by weight category			
Cultivar	wt (lb)	< 5 lb	5-7 lb	> 7 lb	Description
<u>Muskmelon</u>					
Aphrodite	7.4	12	44	44	Large fruit, round to oval, big cavity.
Grand Slam	6.5	3	72	25	Smooth oval shape, small cavity.
Ariel	6.5	22	43	35	Round to oval, shallow sutures, dense netting, variable fruit size.
Atlantis	6.3	19	42	39	Uniform smooth oval fruit, thick flesh with small cavity.
Strike	6.0	11	64	25	Uniform, smooth oval shape, tight cavity, very firm at harvest.
Athena	5.3	31	57	12	Medium-sized oval fruit.
Home Run	5.3	22	65	13	Early maturing, round to oval fruit.
Dutchess	4.2	77	23	0	Early maturing medium-sized fruit, not very attractive but great flavor.
Sugar Cube	2.6	100	0	0	Small round fruit, firm flesh very sweet, ground spots became soft after harvest.
<u>Specialty</u>					
Sensation	5.9	27	61	12	Mostly round, thin netting over green to yellow skin, white flesh, good flavor.
Courier	5.2	40	60	0	Round, green-yellow rind, green flesh.
Lambkin	4.4	87	13	0	Oval, mottled green rind, white flesh, very sweet, sunburn and rind cracking.
HSR 4402	4.2	87	13	0	Smooth oval, light green skin and flesh.